

**Claims**

1. In a multi viewer environment where multiple viewers simultaneously experience an audio-visual production with the visual production occurring on a display surface, a method of increasing the perceived reality of the audio stream of the production,  
5 the method comprising the steps of:

(a) locating a series of speakers along a periphery of the viewing audience

(b) panning an audio stream between the series of speakers so as to provide for the sense of an audio sound moving along the periphery of the viewing audience.

2. A method according to claim 1 wherein the series of speakers comprises an array of at least three speakers located along a side of the viewing audience substantially perpendicular to the viewing surface.  
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3. A method according to claim 1 wherein step (b) further comprises the step of panning the same audio stream to a series of speakers whilst simultaneously delaying the audio stream transmitted by each speaker by an amount that varies along with the panning gain.  
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4. A method according to claim 1 wherein said audio stream includes a channel containing spatial information for a component of the audio stream to be panned.

5. A method according to claim 4 wherein said speakers project said audio stream in accordance with said spatial information.

6. In a multi viewer environment where multiple viewers simultaneously experience an audio-visual production with the visual production occurring on a display surface, a method of increasing the perceived reality of the audio stream of the production, the method comprising the steps of:  
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(a) panning an audio stream between at least two speakers so as to provide for the sense of an audio sound moving along the periphery of the viewing audience,  
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(b) whilst panning the audio stream, delaying the output of one of the speakers relative to another speaker.

7. A method according to claim 6 wherein the relative delay between the outputs from at least two of the speakers varies along with the panning gain.

5 8. A method according to claim 6 wherein said audio stream includes a channel containing spatial information, including one of panning gain and delay, for a component of said audio stream to be panned.

10 9. A system for increasing the perceived reality of an audio stream in a multi viewer environment where multiple viewers simultaneously experience an audio-visual production, with the visual production occurring on a display surface, the system comprising: a series of speakers located along a periphery of the viewing audience ; panning means for panning a sound trajectory between the speakers so as to simulate the effect of a sound trajectory along the periphery of the audience.

15 10. A system according to claim 9 wherein said series of speakers comprises an array of at least three speakers located along a side of the viewing audience substantially perpendicular to the viewing surface.

11. A system according to claim 9 wherein said panning means further comprises delay means for delaying the output of at least one speaker relative to another.

20 12. A system according to claim 11 wherein said delay means varies the delay of said speaker output by an amount that varies with the panning gain.

13. A system according to claim 9 wherein said audio stream includes a channel containing spatial information utilised by said panning means to control panning of said sound trajectory.

25 14. In a multi viewer environment where multiple viewers simultaneously experience an audio-visual production with the visual production occurring on a display surface, a method of increasing the perceived reality of the audio stream of the production, the method comprising the steps of:

(a) locating a substantially linear array of speakers in audible proximity to a viewing audience,

(b) panning an audio stream between the series of speakers so as to provide audience members with the sense of a moving audio sound.

5           15.    A method according to claim 14 wherein said moving audio sound correlates to movement in said visual production.

          16.    A method according to claim 14 wherein said array of speakers lies substantially perpendicular to the viewing surface and comprises at least three speakers.

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